

Sport and Exercise Science

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Objectives

The bachelor of science in sport and exercise science is a science-based undergraduate curriculum that explains the contribution of chemistry, nutrition, physiology, anatomy, biomechanics, motor learning and psychology to effective exercise and sport performance. Students wishing to enter the job market with a bachelor's degree are prepared for entry level positions with community, medical, corporate and athletic fitness programs delivered by health clubs, YMCAs, hospitals, industry, and intercollegiate or professional sports teams, and are equally prepared for employment in the sales or marketing division of exercise or medical equipment manufacturers. In addition to meeting the general admission requirements for the university, high school students considering a major in exercise science should take courses in chemistry and physics, as well as a fourth year of mathematics such as calculus or probability and statistics.

Degree Offered

Bachelor of Science

Major Offered

Sport and Exercise Science

Bachelor of Science

Major in Sport and Exercise Science

In order to earn a bachelor of science degree with a major in sport and exercise science, students must complete a minimum of 180 quarter credits with a cumulative grade point average of 2.00, including the following:

I. Core Curriculum Requirements

ENGL 110	College Writing: Inquiry and Writing	5
PHIL 110	Introduction to Philosophy and Critical Thinking	5
HIST 120	Origins of Western Civilization	5
ENGL 120	Introduction to Literature	5
MATH 120	Precalculus: Algebra.....	5
Lab Science	(fulfilled in major)	
Fine Arts (one approved 5-credit course; see course descriptions).....		5
PHIL 220	Philosophy of the Human Person.....	5
Social Science I	(PSYC 120 required).....	5
Social Science II	(not psychology)	5
Theology and Religious Studies Phase II (200-299)		5
Ethics (upper division)		5
Theology and Religious Studies Phase III (300-399)		5
Interdisciplinary Core Course		3 to 5
Senior Synthesis		3 to 5

II. College of Arts and Sciences Requirements

Modern Language 115, 125, 135, or equivalent 15

NOTE: All students with a major in the College of Arts and Sciences must demonstrate competency through the 135 level in a language other than English. This competency is ordinarily achieved by successful completion of the three-course sequence: 115, 125, and 135. Because these courses are a college requirement, no course in the sequence may be taken on a pass/fail, correspondence, or audit basis. Placement into other than the beginning course of the sequence is achieved by acceptable performance on the Modern Language Competency Examination. See the Modern Languages Department for details on the examinations. Courses used to satisfy the College of Arts and Sciences modern language requirement may not be used to fulfill sport and exercise science major requirements.

Choose one of the two following courses 5

HIST 121 **Studies in Modern Civilization**

HIST 231 **Survey of the United States**

III. Major requirements

All of the following courses must be graded C (2.0) or better.

80 credits including:

CHEM 121	General Chemistry I	4
CHEM 131	General Chemistry Lab I	1
CHEM 122	General Chemistry II	4
CHEM 132	General Chemistry Lab II	1
BIOL 200	Anatomy and Physiology I	5
BIOL 210	Anatomy and Physiology II	5
PHYS 105	Mechanics	5
SPEX 132	Health and Wellness	5
SPEX 211	Responding to Emergency	5
SPEX 231	Sport and Exercise Physiology	5
SPEX 312	Nutrition for Sport and Exercise	5
SPEX 313	Biomechanics and Motor Learning	5
SPEX 321	Care and Prevention of Athletic Injuries	5
SPEX 322	Principles of Resistance and Metabolic Training	5
SPEX 331	Exercise for Rehabilitation	5
SPEX 411	Testing and Technology	5
SPEX 421	Sport and Exercise Psychology	5
SPEX 495	Internship	5

Sport and Exercise Science Courses

SPEX 132	Health and Wellness	5
	Provides students with a general overview of the physical, social, emotional, intellectual, spiritual, and environmental dimensions of health and their application to personal wellness.	
SPEX 211	Responding to Emergencies	5
	Provides students with the knowledge and skills to respond to injury sustained during training and sport performance, and to sustain life until medical help arrives following a sudden acute event as a result of training or performance. Instructional fee.	
SPEX 231	Sport and Exercise Physiology	5
	Introduces students to the acute responses and chronic adaptations of the body to the stresses of training using a mechanistic approach so that students first understand the details of how response and adaptation occur so they will be more likely to predict and control the response. Includes laboratory. Prerequisites: CHEM 121/131, CHEM 122/132, BIOL 200, and BIOL 210.	
SPEX 291-293	Special Topics	1 to 5
SPEX 296	Independent Study	1 to 5
SPEX 312	Nutrition for Sport and Exercise	5
	Addresses the nutritional requirements and practices of individuals involved in high-level human performance. Students will be develop an understanding of nutrient metabolism required for training, the principles of a healthy competitive diet, the role of ergogenic aids, and the interaction of body composition, nutrition, and performance. Prerequisite: SPEX 231.	
SPEX 313	Biomechanics and Motor Learning	5
	Presents the mechanical principles pertinent to the understanding of human motion and the procedures for application of Newtonian mechanics to human movement analysis through creation of biomechanical models using three-dimensional and two-dimensional video and accompanying analog data. Includes laboratory. Prerequisite: High school physics or PHYS 105.	
SPEX 321	Care and Prevention of Athletic Injuries	5
	Develops the knowledge and skills necessary to prevent, evaluate, and remedy athletic injuries using short-term treatment techniques and modalities. Students become familiar with various protective devices, preventative strategies of taping, wrapping and padding, and short-term treatment actions including massage, ice, heat, and numerous electrical and mechanical devices. Includes laboratory.	
SPEX 322	Principles of Resistance and Metabolic Training	5
	Reviews and applies anatomical, biomechanical and physiological principles to develop general and sport-specific metabolic training programs that improve fitness and athletic performance. Includes laboratory. Prerequisites: SPEX 231, 312.	
SPEX 331	Exercise for Rehabilitation	5
	Provides students with the basic concepts of cardiac and pulmonary rehabilitation programs and the knowledge and skills needed to design, implement and assess progress of rehabilitation programs to return individuals to a healthy state, full functional fitness or athletic performance. Instructional fee.	
SPEX 391-393	Special Topics	1 to 5
SPEX 395	Internship	1 to 5
SPEX 396	Independent Study	1 to 5

SPEX 411	Fitness Testing and Technology	5
	Provides a review of the theoretical constructs of exercise physiology and the hands-on training in testing technology to enable students to competently assess levels of fitness in low-risk to high-risk individuals. Includes the use of informed consent, health and wellness screening, and protocols for body composition, resting metabolic rate, cardiovascular and muscular fitness, flexibility, aerobic capacity, anaerobic power, and numerous sport-specific fitness tests. Includes laboratory. Prerequisites: SPEX 231, 313.	
SPEX 421	Sport and Exercise Psychology	5
	Examines the relationship of psychology to sport and exercise. Topics include application of learning principles, social psychology, personality variables, psychological assessment, sport performance, and exercise adherence. Includes practicum.	
SPEX 480	Sport, Film, and Celebrity	5
	Modern American sport and film provide evidence that fantasy and reality have become inextricably intertwined in contemporary society. This course will examine the ways that sport has become a form of show business and athletes' lives have become an ever-larger source of escape for ordinary people. The course will also examine the way in which celebrity has superseded heroism in contemporary culture. Satisfies core interdisciplinary requirement.	
SPEX 481	The Soul of Sport	5
	After consideration of why it is important to take sport seriously from a theological perspective, this course will consider sport in American culture both in its positive and negative, or graced and shadow sides. This course will examine issues relating to cultural perspectives of the body, athletic participation and personal growth, and ethics of sport. Satisfies core interdisciplinary requirement.	
SPEX 491-493	Special Topics	1 to 5
SPEX 495	Internship	1 to 5
SPEX 496	Independent Study	1 to 5